



ELECTRIC MOBILITY CORP. POWER SEATING SYSTEM

OWNERS MANUAL

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POWER SEATING OWNERS MANUAL

WARNING: This product is intended to be prescribed, fitted and applied by a Health Care professional trained in the use and function of Powered Tilt and Recline Seating Systems in conjunction with Powered Wheelchairs. Serious injury could occur if the application and use of this product is not directed by such a HealthCare professional. Performance adjustments should only be made by professionals of the health care field or persons fully conversant with this process and the driver's capabilities.

WARNING: This Seating System is designed to interface with the powered base and remain stable during tilting and reclining on a flat surface. If instability occurs during tilt and recline functions, refrain from using until the problem has been resolved with your Electric Mobility representative.

WARNING: Tilting or reclining on an inclined surface can cause the power chair to tip over causing serious injury. Do not tilt or recline on any surface that is inclined.

WARNING: This Seating System is not designed to be used in a moving vehicle. Serious injury or fatality could occur in the event of an accident

WARNING: This System incorporates a safety feature called Drive Lockout. Drive lockout is a feature designed to prevent the wheelchair from being driven while the seating system is in any recline/back angle combination over 20° RELATIVE TO THE VERTICAL POSITION.

Drive Lockout can be adjusted if medically required. Only a qualified healthcare professional or your Rascal representative may adjust Drive Lockout. Inappropriate setting of the Drive Lockout can cause the chair to tip over and cause serious injury.

CAUTION: IT IS VERY IMPORTANT THAT YOU READ THIS INFORMATION REGARDING THE POSSIBLE EFFECTS OF ELECTRO-MAGNETIC INTERFERENCE ON YOUR POWERED WHEELCHAIR.

Electromagnetic Interference (EMI) From Radio Wave sources

Powered wheelchairs and motorized scooters (in this text, both will be referred to as powered wheelchairs) may be susceptible to electromagnetic interference (EMI), which is interfering electromagnetic energy (EM) emitted from sources such as radio stations, TV stations, amateur radio (HAM) transmitters, two way radios, and cellular phones. The interference (from radio wave sources) can cause the powered wheelchair to release its brakes, move by itself, or move in unintended directions. It can also permanently damage the powered wheelchair's control system. The intensity of the interfering EM energy can be measured in volts per meter (V/m). Each powered wheelchair can resist EMI up to a certain intensity. This is called its "immunity level". The higher the immunity level, the greater the protection. At this time, current technology is capable of achieving at least a 20 V/m immunity level, which would provide useful protection from the more common sources of radiated EMI.

There are a number of sources of relatively intense electromagnetic fields in the everyday environment. Some of these sources are obvious and easy to avoid. Others are not apparent and exposure is unavoidable. However, we believe that by following the warnings listed, your risk to EMI will be minimized. The sources of radiated EMI can be broadly classified into three types:

- 1) Hand-held Portable transceivers (transmitters-receivers with the antenna mounted directly on the transmitting unit. Examples include: citizens band (CB) radios, "walkie-talkies," security, fire, police transceivers, cellular telephones, and other personal communication devices.
**NOTE: Some cellular telephones and similar devices transmit signals while they are ON, even when not being used;
- 2) Medium-range mobile transceivers, such as those used in police cars, fire trucks, ambulances, and taxis. These usually have the antenna mounted on the outside of the vehicle; and
- 3) Long-range transmitters and transceivers, such as commercial broadcast transmitters (radio and TV broadcast antenna towers) and amateur (HAM) radios.

NOTE: Other types of hand-held devices, such as cordless phones, laptop computers, AM FM radios, TV sets, CD players, cassette players, and small appliances, such as electric shavers and hair dryers, so far as we know, are not likely to cause EMI problems to your powered wheelchair.

Powered Wheelchair Electromagnetic Interference (EMI)

Because EM energy rapidly becomes more intense as one moves closer to the transmitting antenna (source), the EM fields from hand-held radio wave sources (transceivers) are of special concern. It is possible to unintentionally bring high levels of EM energy very close to the powered wheelchair's control system while using these devices. This can affect powered wheelchair movement and braking. Therefore, the warnings listed are recommended to prevent possible interference with the control system of the powered wheelchair.

Warnings

Electromagnetic interference (EMI) from sources such as radio and TV stations, amateur radio (HAM) transmitters, two-way radios, and cellular phones can affect powered wheelchairs and motorized scooters. Following the warnings listed below should reduce the chance of unintended brake release or powered wheelchair movement which could result in serious injury.

- 1) Do not operate hand-held transceivers (transmitters-receivers), such as citizens band (CB) radios, or turn ON personal communication devices, such as cellular phones, while the powered wheelchair is turned ON;
- 2) Be aware of nearby transmitters, such as radio or TV stations, and try to avoid coming close to them;
- 3) If unintended movement or brake release occurs, turn the powered wheelchair OFF as soon as it is safe;
- 4) Be aware that adding accessories or components, or modifying the powered wheelchair, may make it more susceptible to EMI (Note: There is no easy way to evaluate their effect on the overall immunity of the powered wheelchair); and
- 5) Report all incidents of unintended movement or brake release to the powered wheelchair manufacturer, and note whether there is a source of EMI nearby.

Important Information

- 1) 20 volts per meter (V/m) is a generally achievable and useful immunity level against EMI (as of May 1994) (the higher the level, the greater the protection);
- 2) The immunity level of this product is not known.

POWER SEATING OWNERS MANUAL

ELECTRIC MOBILITY CORP. TILT/RECLINE SEATING SYSTEM

Product Specifications	
Seat Width Range	14" – 24" / In 1-inch increments
Seat Depth Range	14" – 20" / In 1-inch increments
Back Height Range	16" - 24" / In 1-inch increments
Tilt Range:	
• Tilt Only Systems	0° to 55°
• Tilt/Recline Systems	0° to 55°
Recline Range:	
• Recline Only Systems	85° to 165°
• Tilt/Recline Systems	85° to 165°
Tilt Speed	5.8mm/s
Recline Speed	6.6mm/s
Overall Width	24" to 26"
Overall Height	22"
Overall Length (of seating system without front rigging)	30"
Weight of Seating System	100 lbs.
Armrests:	
• Tilt Only	Double Pivot Adjustable Height (9 to 13-inches) – Desk or Full Length
• Recline Only and Tilt/Recline Systems	Double Pivot Adjustable Height (9 to 13-inches) – Desk or Full Length
Legrests:	Mechanical Swing-Away Legrest or, Power Legrests
Weight Limitations	250lbs for System on 312 Base 300lbs for System on 301 Base 350lbs for System on 710 Base
Safety Requirements	Driver Lockout – 20° relative to the vertical position.
Electrical Requirements	24 DC Battery – On Host Wheelchair Base

POWER SEATING OWNERS MANUAL

SAFETY INSPECTION AND MAINTENANCE CHECKLIST

NOTE: To operate properly and safely, your seating system must be cared for just like any other vehicle. Routine maintenance will extend the life and efficiency of your seating system/wheelchair.

Initial adjustments will be made by the Rascal Mobility Consultant to suit your personal body structure and preference.

Thereafter follow these maintenance procedures.

Description	Initially	Inspect/ Adjust Monthly	Inspect/ Adjust Biannually
ELECTRICAL CONNECTIONS			
• Make sure all electrical connections are secure.	X	X	
• Check limit switch position.	X		X
DRIVE LOCK-OUT			
• Make sure Drive lock-out operates properly.	X		X
TILT MECHANISM			
• Make sure tilt operates smoothly and properly.	X	X	
RECLINE MECHANISM			
• Make sure recline operates smoothly and properly.	X	X	
CLOTHING GUARDS			
• Ensure all fasteners are secure.	X		X
ARMS			
• Secure but easy to release; adjustment levers engage properly.	X		X
• Ensure height adjustment on arms operates and locks securely.	X		X
ARMRESTS			
• Inspect for rips in upholstery.	X		X
• Armrest pad sits flush against arm tube.	X		X
SEAT AND BACK CUSHIONS			
• Inspect for rips.	X		X
CLEANING			
• Clean cushions and armrests with wet sanitary cloth.	X		X

TILT SYSTEM ONLY

Specifications:

- Tilt range – adjustable between 0° to 55°
- Occupant weight limit – 250 to 350 lbs. (Depending on the base)
 - 250lbs for 312 Base
 - 300lbs for 301 Base
 - 350lbs for 710 Base
- Operating speed – 2°/s (5.8mm/s)
- Output Distance – 146mm
- Stops automatically at end of travel in both directions

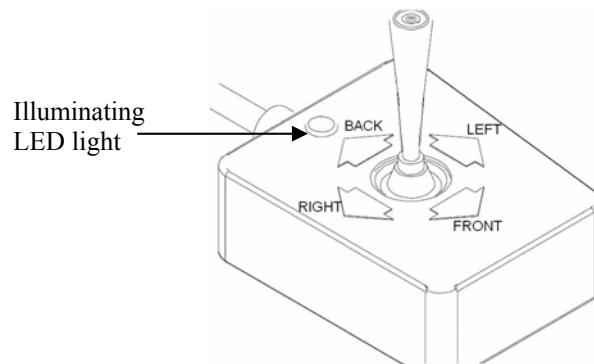
Setting Up:

The EMC Power Tilt System will arrive ready for use and the Rascal Mobility Consultant will make any final adjustments needed to ensure all the appropriate dimensions, functions and devices are in place and the product is ready for your use.

Operating the Tilt System:

The standard method for operation of the powered tilt seating system is through the joystick but it may also be controlled through a toggle switch. Figure 1 below details operation using a toggle switch.

FIGURE 1 – Four Way Toggle Switch



- To tilt back, move the toggle switch forward.
- To tilt forward, release the toggle switch to neutral position, then move the toggle switch forward.

NOTE: The four-way toggle switch **will alternate functions** (tilt seat back, tilt seat forward) after it has been released to the neutral position for a minimum of one (1) second. **Tilt system only: back, left and right switch functions will not work.**

About Drive Lockout:

Drive lock-out is a feature designed to prevent the wheelchair from being driven while in any recline/back angle combination over 20° RELATIVE TO THE VERTICAL POSITION. When the drive lock-out feature has been activated, the LED on the four-way toggle switch will light (Figure 1). To deactivate the drive lockout feature return the chair to the lowered position.

RECLINE SYSTEMS ONLY

Key Features:

- Recline Range – Infinite between 85° to 165°
- Occupant weight limit – 250 to 350 lbs. (Depending on the base)
 - 250lbs for 312 Base
 - 300lbs for 301 Base
 - 350lbs for 710 Base
- Operating Speed – 5.3°/s (6.6mm/s)
- Output Distance – 99.95mm
- Stops automatically at end of travel in both directions

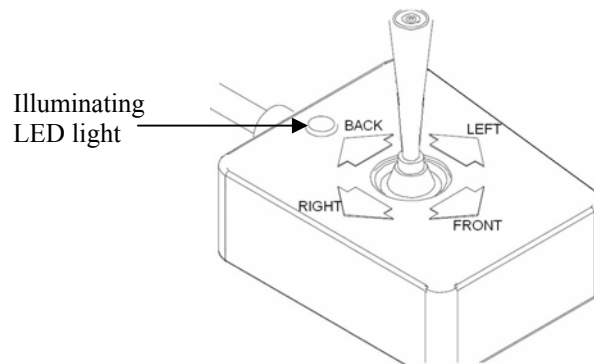
Setting Up:

The EMC Power recline system will arrive ready for use and the Rascal Mobility Consultant will make any final adjustments needed to ensure all the appropriate dimensions, functions and devices are in place and the product is ready for your use.

Operating the Recline System:

The standard method for operation of the powered recline seating system is through the joystick but it may also be controlled through a toggle switch. Figure 2 below details operation using a toggle switch.

FIGURE 2 – Four Way Toggle Switch



- To recline back, move the toggle switch back.
- To incline forward, release the toggle switch to neutral position, then move the toggle switch back.

NOTE: The four-way toggle switch **will alternate functions** (move actuator UP, move actuator DOWN) after it has been released to the neutral position for a minimum of one (1) second. **Recline system only:** front, left and right switch functions will not work.

About Drive Lockout:

Drive lock-out is a feature designed to prevent the wheelchair from being driven while in any recline/back angle combination over 20° RELATIVE TO THE VERTICAL POSITION.

When the drive lock-out feature has been activated, the LED on the four-way toggle switch will light (Figure 2). To deactivate the Drive lockout feature return the back to an upright position.

TILT/RECLINE COMBINATION SYSTEMS

Key Features:

Tilt Seat:

- Tilt range – adjustable between 0° to 55°
- Occupant weight limit – 250 to 350 lbs. (Depending on the base)
 - 250lbs for 312 Base
 - 300lbs for 301 Base
 - 350lbs for 710 Base
- Operating speed – 2°/s (5.8mm/s)

Reclining Back:

- Recline Range – Infinite between 85° to 165° at 3° Seat Angle
- Occupant Weight Limit – to 350 lbs. (Depending on the base)
- Operating Speed – 5.3°/s (6.6mm/s)

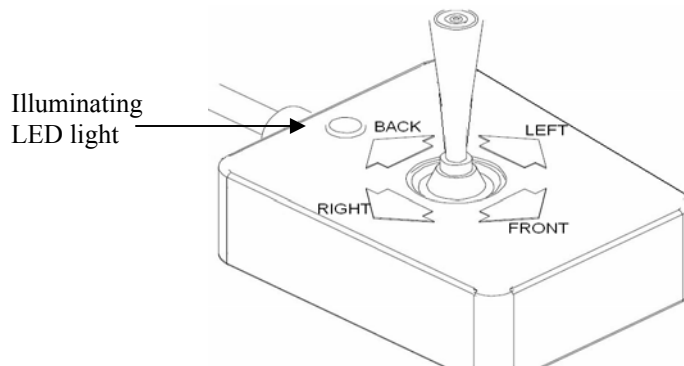
Setting Up:

The EMC Power Tilt and Recline System will arrive ready for use and the Rascal Mobility Consultant will make any final adjustments needed to ensure all the appropriate dimensions, functions and devices are in place and the product is ready for your use.

Operating the Tilt and Recline System:

The standard method for operation of the powered seating system is through a Toggle Switch. Figure 3 below details operation using a toggle switch. Note: The tilt and recline feature of the seating system may in some cases be run through the joystick.

FIGURE 3 – Four Way Toggle Switch



- To tilt back, move the toggle switch forward.
- To tilt forward, release the toggle switch to neutral position, then move the toggle switch forward.
- To recline back, move the toggle switch back.
- To incline forward, release the toggle switch to neutral position, then move the toggle switch back.

NOTE: The four-way toggle switch **will alternate functions** (move actuator UP, move actuator DOWN) after it has been released to the neutral position for a minimum of one (1) second.

About Drive Lockout:

Drive lock-out is a feature designed to prevent the wheelchair from being driven while in any recline/back angle combination over 20° RELATIVE TO THE VERTICAL POSITION. When the drive lock-out feature has been activated, the LED on the four-way toggle switch will light (Figure 3). To deactivate the drive lockout feature simply return the chair to the lowered position and the back to an upright position.

OPERATING THE ARMRESTS

Tilt and Recline Armrests (TRARM):

The TRARM serves the Tilt, Recline, and Combination Systems. See Figure 4.

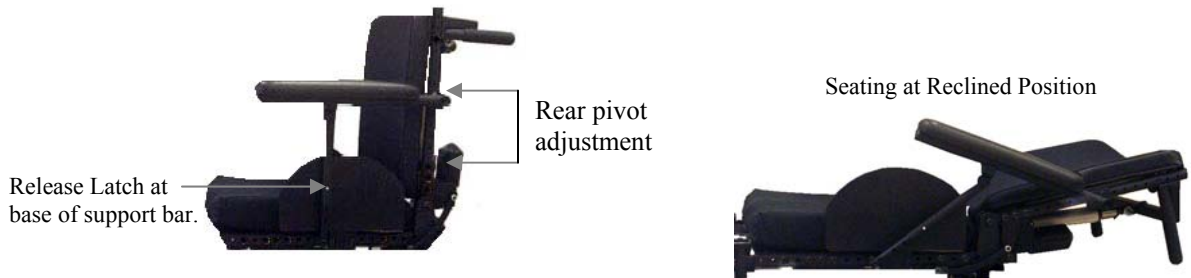
The TRARM is available in Desk and Full Length.

The TRARM is designed to ‘track’ with the reclining back as it reclines and as it inclines.

The TRARM is height adjustable and is a Flip Back design.

The TRARM may also be equipped with an optional Clothing Guard.

FIGURE 4 – TRARM DOUBLE PIVOT



ADJUSTABLE HEIGHT:

1. Set the rear pivot attachment to the desired height and tighten the socket bolt with appropriate tool.
2. Set the adjustable support tube and tighten by removing hex screws, moving the bar to the correct height, and re-inserting the screws.

LOCK / UNLOCK PROCESS:

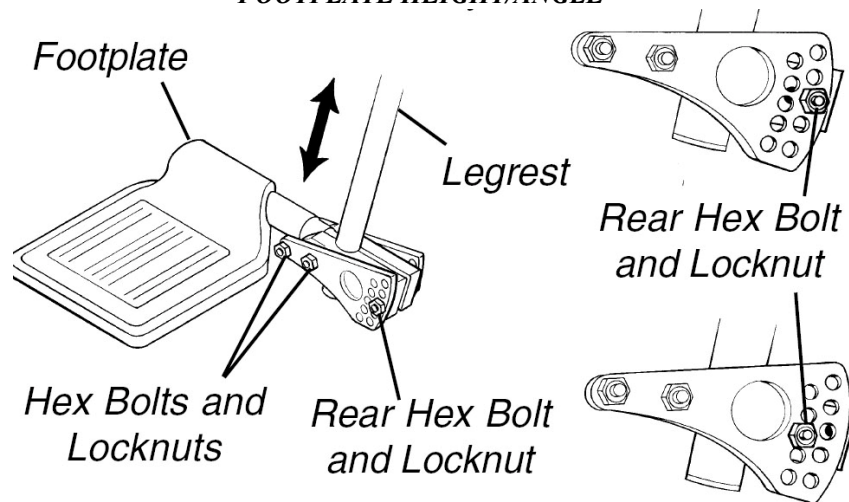
1. To unlock TRARM press down on the release latch at the base of the support arm. When the latch is depressed the arm will swing up and out of the way.
2. While disengaged, swing upper arm upwards to a desired point.
3. To lock TRARM, return the support arm to its original position and flip the release latch backwards.

ADJUSTING POWER ELEVATING LEGRESTS

FOOTPLATE HEIGHT (FIGURE 5)

1. Note the angle of the footplate in relation to the legrest as shown in FIGURE 5.
2. Loosen, but do not remove the three (3) hex bolts and locknuts that secure the footplate to the legrest.
3. Adjust the footplate to the desired height.
4. Line up the footplate to the angle noted in STEP 1.
5. While holding the footplate, tighten the three (3) hex bolts and locknuts securely.

**FIGURE 5 – ADJUSTING LEGRESTS –
FOOTPLATE HEIGHT/ANGLE**



FOOTPLATE ANGLE (FIGURE 5)

1. Remove the rear hex bolt and locknut that secure the footplate to the legrest.
2. Move the footplate to the desired angle.
3. Install the hex bolt through the mounting holes that correspond to the desired footplate angle.
4. Install the locknut onto the hex bolt.
5. While holding the footplate, tighten the hex bolt and locknut securely.

CALFPAD HEIGHT (FIGURE 6)

1. Turn the calfpad towards the outside of the wheelchair.
2. Slide calfpad up or down until desired position is obtained.
3. Turn the calfpad towards the inside of the wheelchair.

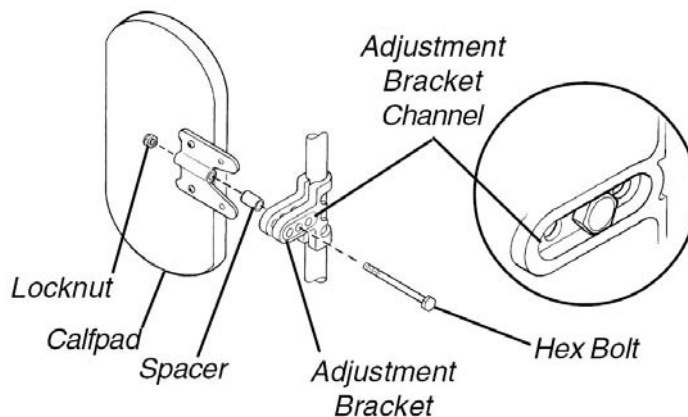
CALFPAD DEPTH (FIGURE 6)

1. Remove the hex bolt and locknut that secure the calfpad and spacer to the adjustment bracket.
2. Move the legrest to one (1) of three (3) positions.
3. Reinstall the hex bolt through the spacer and calfpad.

NOTE: Make sure hex bolt sits flush adjustment bracket channel.

4. Reinstall locknut onto the hex bolt and tighten securely.

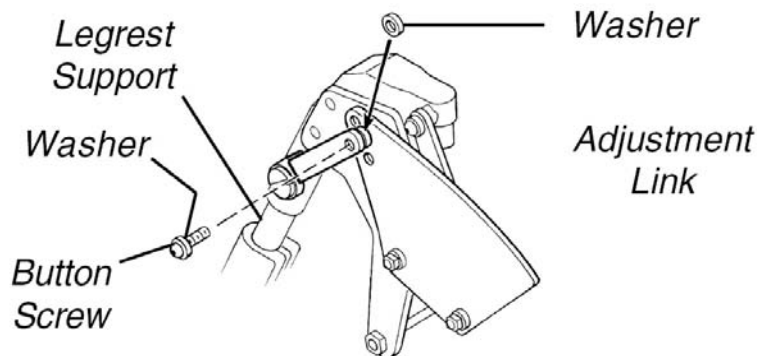
FIGURE 6 – ADJUSTING LEGRESTS – CALFPAD HEIGHT/DEPTH



LEGREST HEIGHT (FIGURE 7)

1. Remove the button screw that secures the adjustment link and two (2) washers to the legrest support.
2. Move adjustment link to one (1) of three (3) positions.
3. Line up the two (2) washers and adjustment link with the mounting hole in the legrest support.
4. Install the button screw and tighten securely.

FIGURE 7 – ADJUSTING GENIUS LEGRESTS – LEGREST HEIGHT/DEPTH



OPERATING THE POWER LEGREST

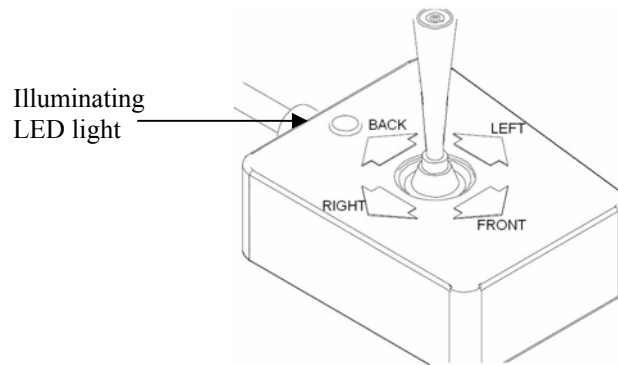
Specifications:

- Operating speed – 20.0mm/s
- Stops automatically at end of travel in both directions

Operating the Power Legrest:

The standard method for operation of the powered seating system is through a Toggle Switch. Figure 8 below details operation using a toggle switch. Note: The powered legrests of the seating system may in some cases be run through the joystick.

FIGURE 8 – Four Way Toggle Switch



- To extend left side legrest, move the toggle switch left.
- To retract left side legrest, release the toggle switch to neutral position, then move the toggle switch left.
- To extend right side legrest, move the toggle switch right.
- To retract right side legrest, release the toggle switch to neutral position, then move the toggle switch right.

NOTE: The four-way toggle switch **will alternate functions** (extending and retracting the actuator) after it has been released to the neutral position for a minimum of one (1) second

REMOVING THE POWER LEGREST

1. Disconnect power legrests from jumper cable.
2. Push powered legrest release handle towards the opposite side of the wheelchair and swing legrest to the outside of the wheelchair.
3. Lift UP on powered legrest and remove from wheelchair.
4. Repeat STEPS 1-3 for opposite power legrest.

INSTALLING/REMOVING SWINGAWAY FOOTREST

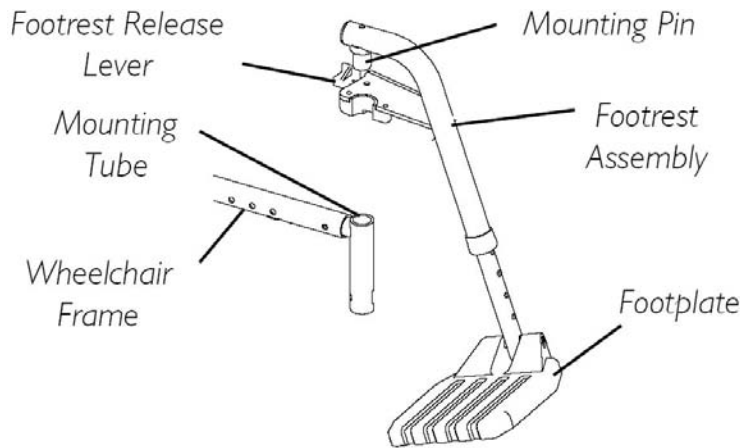
INSTALLING

1. Turn the footrest to the side (open footplate is perpendicular to the wheelchair).
2. Insert the footrest assembly mounting pin into the mounting tube of the wheelchair frame.
3. Rotate the footrest towards the inside of the wheelchair until it locks into place.

NOTE: The footplate will be on the inside of the wheelchair when locked in place.

4. Repeat STEPS 1-3 for the other footrest assembly.
5. If necessary, adjust the footrest height. Refer to ADJUSTING SWINGAWAY FOOTREST HEIGHT in this procedure of the manual.

FIGURE 9 – INSTALLING/REMOVING SWINGAWAY FOOTREST



REMOVING

1. Push the footrest release lever inward while rotating the footrest outward.
2. Lift the footrest assembly out of the mounting pin of the wheelchair frame.
3. Repeat STEPS 1-2 for opposite side, if necessary.

ADJUSTING SWINGAWAY FOOTREST HEIGHT

HEIGHT ADJUSTMENT RANGES:

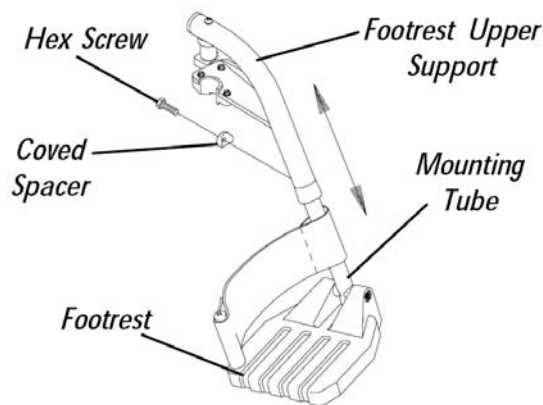
- 60° 13-17-inches
- 70° 13-17-inches
- 90° 5-8-inches
- 90° 5-11-inches (with 3-inch extension)

NOTE: If using ANY type of extension with the ADJUSTABLE FLIP-UP FOOTPLATE, refer to ADJUSTABLE ANGLE FLIP-UP FOOTPLATE ADJUSTMENT in this procedure of the manual.

60° and 70° (FIGURE 10)

1. Remove the footrest from the wheelchair. Refer to INSTALLING/REMOVING SWINGAWAY FOOTREST in this procedure of the manual.
2. Remove the hex screw and coved spacer and slide the footrest up or down on its mounting tube until the desired footrest height is achieved.
3. Reassemble the hex screw and coved spacer through the footrest upper support and mounting tube as shown in FIGURE 10.
4. Securely tighten the hex screw and coved spacer.
5. Install the footrest assembly onto the wheelchair. Refer to INSTALLING/REMOVING SWINGAWAY FOOTREST in this procedure of the manual.
6. Repeat STEPS 1-5 for the opposite side of the wheelchair, if necessary.

FIGURE 10 – ADJUSTING SWINGAWAY FOOTREST HEIGHT – 60° AND 70°



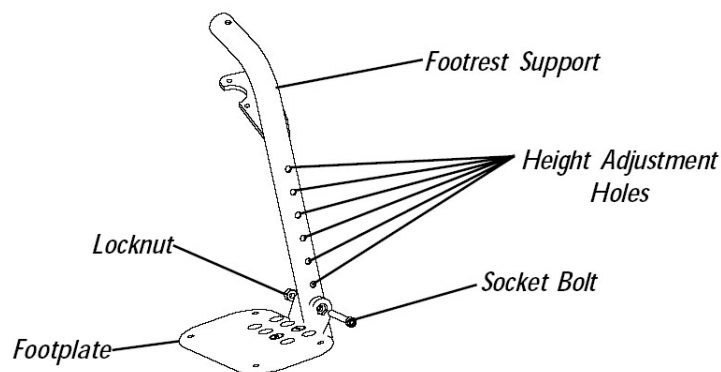
70° AND 90° FOOTRESTS (FIGURE 11)

Adjusting

1. Remove any accessories that are attached to the footrests.
2. Remove the 6mm socket bolt, coved washer and 6mm locknut that secure the footplate to the footrest support.
3. Reposition the footplate to the desired height.
4. Reinstall the socket bolt through the mounting holes of the footplate and footrest support.

WARNING: DO NOT over tighten socket bolt and locknut. Footrest MUST be able to rotate upward from the horizontal to the vertical position. Secure the footplate to the footrest support with the coved washer and locknut.

FIGURE 11 – INSTALLING/REMOVING/ADJUSTING THE FOOTREST



LIMITED WARRANTY

PLEASE NOTE: THE WARRANTY BELOW HAS BEEN DRAFTED TO COMPLY WITH FEDERAL LAW APPLICABLE TO PRODUCTS MANUFACTURED AFTER JULY 4, 1975.

This warranty is extended only to the original purchaser/user of our products. Additionally, this warranty is extended to FSS ordering activities that are original purchasers/users of our products. This warranty gives you specific legal rights and you may also have other legal rights which vary from state to state. Electric Mobility warrants this product to be free from defects in materials and workmanship for a period of one (1) year from date of purchase. If within such warranty period any such product shall be proven to be defective, such product shall be repaired or replaced, at Electric Mobility's option. Electric Mobility's sole obligation and your exclusive remedy under this warranty shall be limited to such repair and/or replacement. For warranty service, please contact Electric Mobility.

LIMITATIONS AND EXCLUSIONS: THE FOREGOING WARRANTY SHALL NOT APPLY TO SERIAL NUMBERED PRODUCTS IF THE SERIAL NUMBER HAS BEEN REMOVED OR DEFACED, PRODUCTS SUBJECTED TO NEGLIGENCE, ACCIDENT, IMPROPER OPERATION, MAINTENANCE OR STORAGE, COMMERCIAL USE, GOVERNMENT OR HOSPITAL USE, PRODUCTS MODIFIED WITHOUT ELECTRIC MOBILITY'S EXPRESS WRITTEN CONSENT INCLUDING, BUT NOT LIMITED TO, MODIFICATION THROUGH THE USE OF UNAUTHORIZED PARTS OR ATTACHMENTS; PRODUCTS DAMAGED BY REASON OF REPAIRS MADE TO ANY COMPONENT WITHOUT THE SPECIFIC CONSENT OF ELECTRIC MOBILITY, OR TO A PRODUCT DAMAGED BY CIRCUMSTANCES BEYOND ELECTRIC MOBILITY'S CONTROL, AND SUCH EVALUATION WILL BE SOLELY DETERMINE BY ELECTRIC MOBILITY. THE WARRANTY SHALL NOT APPLY TO PROBLEMS ARISING FROM NORMAL WEAR OR FAILURE TO ADHERE TO THESE INSTRUCTIONS.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESS WARRANTIES. IMPLIED WARRANTIES, IF ANY, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, SHALL NOT EXTEND BEYOND THE DURATION OF THE EXPRESS WARRANTY PROVIDED HEREIN AND THE REMEDY FOR VIOLATIONS OF ANY IMPLIED WARRANTY SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF THE DEFECTIVE PRODUCT PURSUANT TO THE TERMS CONTAINED HEREIN. ELECTRIC MOBILITY SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES IN AN ACTION UNDER THIS LIMITED WARRANTY.

THIS WARRANTY SHALL BE EXTENDED TO COMPLY WITH STATE/PROVINCIAL LAWS AND REQUIREMENTS.